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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

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PALOMAR RANGER DISTRICT
P. O. BOX 27669
ESCONDIDO, CALIFORNIA 92027

March 26, 1979

REPLY TO: 2470 Silvicultural Systems

SUBJECT: Big-Cone Douglas Fir Seedlings Planted in
Fomes annosus Infection Centers on Pine Hills

TO: District Range

TOM H. IDA



On March 6, 1979, Mike Srago (Pathologist from RO FIDM), Thomas Horner, and myself conducted a field reconnaissance of previously identified *Fomes annosus* infection centers near Pine Hills on Palomar Mountain. Preliminary investigations made in 1977 of these disease centers and similar conditions in other areas by RO FIDM personnel, lead them to speculate that Big-Cone Douglas Fir (*Pseudotsuga macrocarpa*) might possibly be resistant to *Fomes annosus* infection. To test this hypothesis, it was proposed by RO FIDM that Big-Cone Douglas Fir seedlings be planted directly within *Fomes annosus* kill centers and then closely monitor the results.

The purpose of our 3/6/79 examination was to (1) positively relocate *Fomes annosus* infection centers and (2) assess the best procedure for designing these plots and planting these sites with Big-Cone Douglas Fir seedlings; given that the primary consideration of the tree planting to be studying affects of the disease on this tree species over time.

The general location of the study area is shown in Exhibit A while exact planting sites are presented in Exhibit B. Legal description of the area is NW $\frac{1}{4}$ Section 29, T10S, R2E. The only practical access to the planting site is through private property from County Highway S-7. We discussed with the father of the landowner, on 3/6/79, the reason we needed access to the property and received verbal permission to cross at that time.

On 3/14/79, we planted three strips through *Fomes annosus* centers according to guidelines verbally developed during our 3/6/79 meeting. Exhibit B illustrates approximate lay-out and size of planting strips and arrangement/relationships to *Fomes annosus* infection centers as agreed upon. Following presents data that will be useful during monitoring stages of this study.

PINE HILLS BIG-CONE DOUGLAS FIR
PLANTINGS WITHIN *Fomes annosus* CENTERS

<u>Plant Strip #</u>	<u>Number of Seedlings</u>	<u>Size of Strip Sq. feet</u>	<u>Spacing feet</u>
1	115	17,000	10 X 10
2	120	18,000	10 X 12
3	75	7,500	8 X 8
Total	310	42,500	

Species: Big-Cone Douglas Fir (*Pseudotsuga macrocarpa*) Source unknown.

Type Seedling: Tube containerized 1 year old stock.

Protection: 18" Vexar tube

Date: March 14, 1979

Planting Weather Conditions: Normal or above rainfall - rained following week after planting.

Supplemental Water: 6" water catchment basins constructed.

Planting Arrangement: To better assess disease affects, plantings extended beyond infection centers into healthy oak and pine stands. Seedlings were planted in relatively systematic arrangements; but, not in rows. Strips averaged approximately 50 feet or four spaced seedlings wide.

Identification: Plantings strips are marked on the ground using steel posts with planting strip numbers 1, 2, or 3 indicated. Each strip has three green steel posts centered in the middle of the planting strip at midway point and at each end.

In order to effectively monitor and keep documentation on this project, it will be necessary to evaluate and record planting survival at least twice during 1979 and again in 1980. Thereafter, a minimum of one evaluation each year should be made to take photographs at established photo-plots and to document the status of the plantings (refer to Exhibit C for photo-plot procedure).

Bill

WILLIAM BRAMLETTE
District Resource Assistant

Exhibit C

Photo-Plot Instructions

Planting Strips #1, 2, and 3

Slide A: Take photo (slide) standing at base of marker stake (west end) approximately four feet above the ground. The camera should be aimed at the midway steel stake to the east with the top of the marker stake level with the top of the field of view in the camera. Slides should be labeled according to labeling instructions below.

Slide B: Take photo standing at the midway marker stake approximately four feet above the ground. The camera should be aimed at the east end marker stake with the top of the marker stake level with the top of the field of view in the camera.

Labeling Instructions: Include (1) Title of the study, (2) Pine Hills area, (3) Planting Strip number, (4) Date, (5) Name of photographer.

Note: File in "Study File"

TAKE Photos near 12:00 p.m.

BIG-CONE DOUGLAS-FIR PLANTINGS IN FOMES ANNOSUS KILL
POCKETS--PINES HILLS--MA. 14, 1979

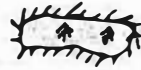
Palomar Ranger District
Cleveland National Forest



--Fomes annosus Kill Area



--Positive identification of Fomes annosus in Coulter Pine roots (March 6, 1979)



--Big-Cone Douglas-Fir Planting Strip

3/19/79

EXHIBIT B

W.W.B.

